

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Monsanto Technology XXC

MUCCUS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT. THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLEMISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE CHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR YETING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'I512243'

In Testimonn Photon. I have hereunto set my hand and caused the seal of the Plant Harista Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of November, in the year two thousand and eight.

Altost:

Qen 3

Commissioner Plant Variety Protection Office Agricultural Marketing Service Commed J. Schafe

ery of Agriculture

U.S. DEPARTMENT OF AGRICULTURE

AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE		the Paperwork Reduction Act (PRA) of 1995.		
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions and information collection burden statement on reverse)		Application is required in order to de (7 U.S.C. 2421). Information is held	termine if a plant variety protection certificate is to be issued confidential until certificate is issued (7 U.S.C. 2426).	
1. NAME OF OWNER		2. TEMPORARY DESIGNATION OF EXPERIMENTAL NAME	R 3. VARIETY NAME	
Monsanto Technology L.L.C . レレビ		None	I512243	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and	7IP Code, and Country	5. TELEPHONE (include area code)		
	Zii Oode, and Country)	(815) 758-9281	FOR OFFICIAL USE ONLY PVPO NUMBER	
800 N. Lindbergh Blvd. Creve Coeur, MO 63167	•		0.000 0.000	
U.S.A.	ı	8. FAX (include area code)	2006 00 145	
	·	(815) 758-3117	FILING DATE	
 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FOR ORGANIZATION (corporation, partnership, association, etc. 	M OF 8. IF INCORPORATED, GIVE STATE OF INCORPORATE		March 2, 2006	
Corporation	Delaware	August 27, 1999	Marca a, ver	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE	S) TO SERVE IN THIS APPLICATION. (F	First person listed will receive all papers)	F FILING AND EXAMINATION FEES:	
			E \$ 4382.00	
Timothy R. Kain	Mich	ael J. Roth	R DATE 3/2/06	
8350 Minnegan Road			E CERTIFICATION FEE:	
Waterman, IL 60556		N. Lindbergh Blvd. e Coeur, MO 63167	F . 768.00	
U.S.A.	U.S.A	· · · · · · · · · · · · · · · · · · ·	E DATE 10/27/08	
			D //01/03	
11. TELEPHONE (Include area code) (815) 758-9281	12. FAX (Include area code)	13. E-MAIL	14. CROP KIND (Common Name)	
·	(815) 758-3117	trkain@monsanto.com	0011,11010	
15, GENUS AND SPECIES NAME OF CROP		16. FAMILY NAME (Botanical)	17. IS THE VARIETY A FIRST GENERATION HYBRID?	
Zea mays		Graminae	□ YES X NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT S (Follow instructions on reverse)	SUBMITTED	19. DOES THE OWNER SPECIFY THAT CERTIFIED SEED? See Section	SEED OF THIS VARIETY BE SOLD AS A CLASS OF 83(a) of the Plant Vanety Protection Act)	
a. X Exhibit A. Origin and Breeding History of the Varie	ty	YES (If "yes", answer items 20 and 21 below) X NO (If "no", go to item 22)		
b. X Exhibit B. Statement of Distinctness		20. DOES THE OWNER SPECIFY THAT SEED OF THIS YES NO		
c. X Exhibit C. Objective Description of Variety		VARIETY BE LIMITED AS TO NUMBER OF CLASSES?		
d.		IF YES, WHICH CLASSES?	FOUNDATION REGISTERED CERTIFIED	
e. X Exhibit E. Statement of the Basis of the Owner's O		21. DOES THE OWNER SPECIFY THAT VARIETY BE LIMITED AS TO NUMBI		
 Youcher Sample (2,500 viable untreated seeds or, verification that tissue culture will be deposited and repository) 		IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.		
g. X Filing and Examination Fee (\$3,652), made payable States* (Mail to the Plant Variety Protection Office)	to "Treasurer of the United	FOUNDATION REGISTERED CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATE FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRAN- OR	RIAL) OR A HYBRID PRODUCED SFERRED, OR USED IN THE U.S.	23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?		
OTHER COUNTRIES?		X YES	NO .	
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE USE		IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Ple				
 The owners declare that a viable sample of basic seed of the for a tuber propagated variety a tissue culture will be deposed. 	sited in a public repository and maintaine	d for the duration of the certificate.		
The undersigned owner(s) is(are) the owner of this sexually and is entitled to protection under the provisions of Section	y reproduced or tuber propagated plant va 42 of the Plant Variety Protection Act.	ariety, and believe(s) that the variety is new, o	listinct, uniform, and stablé as required in Section 42,	
Owner(s) is(are) informed that false representation herein of		nalties.	•	
SIGNATURE OF OWNER Limitly R. LO		SIGNATURE OF OWNER		
NAME (Please print or type)		NAME (Please print or type)	**************************************	
Timothy R. Kain				
Patent Scientist	² /28/06	CAPACITY OR TITLE	DATE	
ST-470 (02-10-2003) designed by the Plant Variety Protection Office using Word	ı ∠υυυ. Replaces former versions of ST-470, which	n are obsolete.	(See reverse for instructions and information collection burden statement)	

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements,
- 23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Parent of a hybrid sold in the U.S. - April 2005

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

U.S. Patent Application No. 11/093,744 - filed March 30, 2005 (I512243)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beitsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, perental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer. ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000.

EXHIBIT A

Origin and Breeding History I512243

I512243 was selected for its improved grain yield, shorter plant height, greater plant health, improved Southern rust tolerance and greater combining ability.

Summer 1994	The inbred line 286D184C* (a proprietary DEKALB Genetics Corporation inbred) was crossed to the inbred line SNBM (a proprietary DEKALB Genetics Corporation inbred) in nursery rows 94:1127 and 91:1071.
Winter 1994-95	The S0 seed was grown and crossed to inbred line MM501D (a proprietary DEKALB Genetics Corporation inbred) in nursery row 94FL: 1530 and 94FL: 1529.
Summer 1995	The S1 seed was grown and self-pollinated in the summer nursery rows and designated as family 95:132. 25 ears were selected.
Summer 1996	S2 ears were grown ear-to-row and self-pollinated. 2 ears were selected in nursery row 96:20100.
Winter 1996-97	S3 ears were grown ear-to-row and self-pollinated in nursery row 96FL: 285. 1 ear was selected.
Winter 1997-98	S4 ear was grown ear-to-row and self-pollinated in nursery row 97FL: 834. 1 ear was selected.
Winter 1998-99	S5 ear was grown ear-to-row and self-pollinated in nursery row 98FL: 225. 1 ear was selected and designated as I512243.
Winter 1999-00	S6 ear was grown ear-to-row and self-pollinated in row 99PR: 1091 and 99PR: 1092. A total of 8 ears were selected
Summer 2000	S7 ears were grown ear-to-row and self-pollinated. Final selection was completed in nursery rows 00:80587 to 00:80600. This selection consisted of bulking S8 ears.

^{* -} inbred line 286D184C is derived from Teko Yellow (I137TN)

Statement of Stability and Uniformity

Corn inbred I512243 was coded in 1998 with final selection made in 2000. This inbred has been reproduced by self-pollination for three generations and judged to be stable. Inbred I512243 is uniform for all traits observed.

Statement of Variants

1512243 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

EXHIBIT B

Statement of Distinctness

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Monsanto Technology L.L.G. believes that I512243 is most similar to corn inbred SNBM, an inbred developed by DEKALB Genetics Corporation.

1512243 and SNBM differ most significantly in the following traits:

Trait	1512243	SNBM
Silk Color	Green-Yellow (2.5 GY 8/6)	Pink (2.5 R 7/6)
Leaf -Longitudinal Creases*	Many (8)	Few (2)
Ear Position	Pendent	Upright
Kernel Row Direction	Straight	Curved
Cob Color	White (Lighter then 5 Y 9/1)	Pink (5 R 6/6)

^{* -} based on a scale of 1-9, 1 = none, 9 = many

2002

Variety	Tassel Branch Number
1512243	4.0
	(Std Dev = 1.9, N= 10)
SNBM	14.1
	(Std Dev = 1.6, N= 10)
P_Val	0.000
Signif.	**

2003

Variety	Tassel Branch Number
1512243	3.3
	(Std Dev = 0.9, N= 10)
SNBM	13.3
	(Std Dev = 2.0, N= 10)
P_Val	0.000
Signif.	**

Significance levels are indicated as: + = 10%, * = 5 %, ** = 1%

Corn variety I512243 has green-yellow silk color, a pendant ear position, straight kernel rows, a white cob, many longitudinal leaf creases and fewer tassel branches while comparative corn variety SNBM has pink silk color, an upright ear position, curved kernel rows, a pink cob, few longitudinal leaf creases and greater number of tassel branches.

EXHIBIT B (revised)

Description of Experimental Design

The corn varieties I512243, SNBM and MO17 were grown at the Waterman, IL observation nursery in years 2002-2003. The varieties were planted in 2 row plots with 15 plants per row in each of the three years. Trait data were collected on 10 random representative plants for most traits from each 2 row plot. Data on qualitative traits are usually collected on 10 plants from each 2 row plot. For Exhibit C all data were pooled and reported as means across the years for subject variety and the standard variety with standard deviation. The varieties are randomly planted in a 4.5 acre observation nursery which is located within a larger 18 acre field. Besides the observation nursery, this field consists of a research seed increase nursery and an IP seed inventory nursery. The location of each of these individual nurseries is rotated each year to a different location within the 18 acre field. Therefore subject inbreds are not planted adjacent to comparative or standard varieties and may be located in different areas of the larger field each year, therefore being influenced by spacial differences within the field. Growing conditions within the field are not uniform as there are some slight topographical variations such as lower areas which may accumulate and retain water or higher areas which are usually drier. The field is tiled and therefore a variety maybe planted close to a tile line while a comparative variety maybe planted further away and in a low spot within the field. Temporal varieties can exist as weather conditions from year to year can vary as well as planting dates can vary from year to year based on weather conditions. Weather conditions each year can vary the maturity rate of the varieties due to either favorable or unfavorable growing conditions.

Trait variability is not observed for each variety within its own test plot-plants are usually uniform and data are collected on the "most" representative plants- variability occurs due to spacial location of the test plot for that variety from year to year and to the temporal variation of weather conditions from year to year during the 2-3 years data are collected.

Waterman Research Station Weather Data 2002-2003

Date	Average Precip. (mm)	Ave. Monthly Temp – Max. (F°)	Ave. Monthly Temp-Min (F°)	Ave. Monthly Rel. Humid Max (%)	Ave. Monthly Rel. Humid – Min (%)
June 2002	5.3	81.3	60.4	90.7	47.7
July 2002	1.5	87.0	64.9	93.2	48.3
August 2002	5.7	83.1	61.0	96.0	51.8
Sept. 2002	1.5	79.4	52.6	95.0	42.7
June 2003	2.0	75.7	55.7	-	-
July 2003	6.4	82.2	62.2	-	-
August 2003	2.6	83.5	63.5	-	•
Sept 2003	2.6	72.9	52.9	-	-

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United States Department of Agriculture, Agricultural Marketing Service Science and Technology, Plant Variety Protection Office National Agricultural Library Building, Room 400 Beltsville, MD 20705-2351

OBJECTIVE DESCRIPTION OF VARIETY CORN (Zea mays L.)

	CONN (Zea III	py3 L./		*,	
Name of Applicant(s) Variety Seed Source			e Va	riety Name or Temporary D	esignation
Monsanto Technology +: L.C.				1512243	
Address (Street & No., or R.F.D. No., City, State, Zip Code and Co	ountry)		FO	R OFFICIAL USE	PVPO Number
8350 Minnegan Road, Waterman, IL 60556				2006 0014	15
Place the appropriate number that describes the varietal character necessary. Completeness should be striven for to establish an add	s typical of this inbred variety equate variety description.	in the spaces below. F	Right justify who	le numbers by adding lead	ing zeroes if
COLOR CHOICES (Use in conjunction with Munsell color code to 01=Light Green 06=Pale Yellow 02=Medium Green 07=Yellow 03=Dark Green 08=Yellow-Orange 04=Very Dark Green 09=Salmon 05=Green-Yellow 10=Pink-Orange	describe all color choices; des 11=Pink 12=Light Red 13=Cherry Red 14=Red 15=Red & White	16=Pal 17=Pur 18=Col 19=Wh	e Purple ple orless	on): 21=Buff 22=Tan 23=Brown 24=Bronze 25=Variegated (D 26=Other (Desc	
STANDARD INBRED CHOICES (Use the most similar (in background and maturity) of these to make comparisons based or Yellow Dent Families: Family Members Co109, ND246, B14 CM105, A632, B64, B68 Oh7, T232 B37 B37, B76, H84 W117, W153R B73 N192, A679, B73, NC268 W182BN C103 M017, Va102, Va35, A682 Oh43 A619, MS71, H99, Va26 White Dent: WF9 W64A, A554, A654, Pa91 Cl66, H105, Ky228					132 HP7211
TYPE: (describe intermediate types in Comments section)			Standard Int	ored Name MO17	
2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamenta	1 7=Pipecorn		2 Type		
2. REGION WHERE DEVELOPED IN THE U.S.A.:			+	ed Source	
2 1=Northwest 2=North central 3=Northeast 4=Southe	east 5=South central 6=So	outhwest 7=Other	2 Region		
MATURITY (In Region Best Adaptability; show Heat Unit formula DAYS HEAT UNITS 8 6 1 6 6 3. 0 From emergence to 50% of pla	· ·		DAYS 0 7 9	HEAT UNITS 1 6 8 0.0	
83 1582.0 From emergence to 50% of pla	nts in pollen		075	1 5 8 2.0	
From 10% to 90% pollen shed					
From 50% silk to optimum edit	ole quality				
From 50% silk to harvest at 25	% moisture				
4. PLANT:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
1 6 8. 3 cm Plant Height (to tassel tip)	8.0	30	1 9 2.7	18.6	30
5 6.6 cm Ear Height (to base of top ear node)	7.1	30	0 7 6.8	14.0	30
1 0. 9 cm Length of Top Ear Internode	1.0	30	0 1 4.4	1.8	30
Average Number of Tillers					
1.0 Average Number of Ears per Stalk	0.0	30	0 0 1.0	0.0	30
1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3:			4		
Application Variety Data Page 1			Standard Int	ored Data	
	. 490 .		Claridard IIII		·····

Application Variety Data	Page 2		Standard Inbr	ed Data	
5. LEAF:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
0 9 . 4 cm Width of Ear Node Leaf	0.8	30	0 0 9.0	0.7	30
8 2. 2 cm Length of Ear Node Leaf	5.2	30	0 6 2.4	6.4	30
5 . 7 Number of leaves above top ear	0.5	30	5. 6	0.4	15
3 1. 0 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis t	3.8 o stalk above leaf)	30	3 5.8	7.8	30
. 0 3 Leaf Color (Munsell code 5 GY 3/4)			0 2 (Munsell	code 5 GY 5/10)	
3 Leaf Sheath Pubescence (Rate on scale from	1=none to 9=like peach fuzz)		2		
6 Marginal Waves (Rate on scale from 1=none to	9=many)		5		
8 Longitudinal Creases (Rate on scale from 1=ne	one to 9=many)		8		
6. TASSEL:	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
3. 7 Number of Primary Lateral Branches	1.5	30	7.1	1.1	30
2 7. 0 Branch Angle from Central Spike	5.5	30	3 4.6	5.2	30
3 8. 4 cm Tassel Length (from top leaf collar to tassel tip)	3.2	30	4 7. 4	4.9	30
7.9 Pollen Shed (Rate on scale from 0=male sterile	to 9=heavy shed)		4 .3		
0 7 Anther Color (Munsell code 2.5 Y 8/10)			0 5 (Munsell	code 2.5 GY 8/6)	
0 2 Glume Color (Munsell code 5 GY 4/8)			0 2 (Munsell	code 5 GY 4/8)	
1 Bar Glumes (Glume Bands): 1=Absent 2=Preser	nt		1		
7a. EAR (Unhusked Data):					
0 5 Silk Color (3 days after emergence) (Munself code 2	.5 GY 8/6)		0 5 (Munsell	code 2.5 GY 8/6)	
0 2 Fresh Husk Color (25 days after 50% silking) (Muns	ell code 5 GY 4/8)		0 2 (Munsell	code 5 GY 4/8)	
2 1 Dry Husk Color (65 days after 50% Silking) (Munsell	code 2.5 Y 8/4)		2 1 (Munsell	code 2.5 Y 8/4)	
3 Position of Ear at Dry Husk Stage: 1=Upright 2=Horiz	contal 3=Pendent		1		
8 Husk Tightness (Rate on scale from 1=very loose to	9=very tight)		8		
2 Husk Extension (at harvest): 1=Short (ears exposed) tip) 4=Very Long (>10 cm)	2=Medium (<8 cm) 3=Long (8	i-10 cm beyond ear	3		
7b. EAR (Husked Ear Data):	Standard Deviation	Sample Size	Mean	Standard Deviation	Sample Size
1 4. 6 cm Ear Length	0.8	30	1 8.5	0.7	30
4 3. 2 mm Ear Diameter at mid-point	1.8	30	3 8.0	1.6	30
87.7 gm Ear Weight	15.2	30	1 0 4.8	18.0	30
17.2 Number of Kernel Rows	0.9	30	1 2.0	0.7	15
2 Kernel Rows: 1=Indistinct 2=Distinct			2		
1 Row Alignment: 1=Straight 2=Slightly Curved 3=	Spiral		1		
9.6 cm Shank Length	1.7	30	0 9.8	1.9	15
2 Ear Taper: 1=Slight 2=Average 3=Extreme			2		
Application Variety Data			Standard Inbre	ed Data	
Note: Use chart on first page to choose color codes for color traits.	<u> </u>				

2006 00 145

8. KERNEL (Dried): Standard Deviation Sample Size Mean 1 1 . 2 mm Kernel Length 0.2 30 11 . 4 7 . 3 mm Kernel Width 0.3 30 0. 9. 0 4 . 4 mm Kernel Thickness 0.3 30 0. 4. 9 2 8 . 9 % Round Kernels (Shape Grade) 5. 5 500g 31.7 1 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10) 3 Endosperm Type: 1-Sweet (sur) 2-Extra Sweet (sh2) 3-Normal Starch 4-High Amylose Starch 5-High Protein 7+High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell code 2.5 Y 8/10) 3 Endosperm Type: 1-Sweet (sur) 2-Extra Sweet (sh2) 3-Normal Starch 4-High Amylose Starch 5-High Protein 7+High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell code 2.5 Y 8/10) 3 Endosperm Type: 1-Sweet (sur) 2-Extra Sweet (sh2) 3-Normal Starch 4-High Amylose Starch 6-High Protein 7+High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell code 2.5 Y 8/10) 3 Endosperm Type: 1-Sweet (sur) 2-Extra Sweet (sh2) 3-Normal Starch 4-High Amylose Starch 6-High Protein 7-High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell code 2.5 Y 8/10) 3 Endosperm Type: 1-Sweet (sur) 2-Extra Sweet (sh2) 3-Normal Starch 4-High Amylose Starch 6-High Protein 7-High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell code 2.5 Y 8/10) 4 Leaf Blights, Protein 7-High Lysine 8-Super Sweet (se) 9-High Oil 0.7 (Minsell Code 2.5 Y 8/10) 10 DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race of Strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Collectorichum graminicole)	2006 00193	I				
1 1 2. mm Karnel Length 0.2 30 1 1.4 7 3 mm Kernel Width 0.3 30 0 9.0 4 .4 mm Kernel Thiokness 0.3 30 0 9.0 4 .4 mm Kernel Thiokness 0.3 30 0 4.9 2 8.9 % Round Kernels (Shape Grade) 6.5 600g 31.7 1 Aleurone Color Pattern: 1-Hornozygous 2*-Segregating (describe) 1 1 9 Aleurone Color (Munsell code Lighter timan 5 Y 9*1) 1 9 (Minsell Code 2.5 Y 8*10) 1 9 (Minsell Code 2.5 Y 8*10) 1 9 (Minsell Code 2.5 Y 8*10) 3 Endosperm Type: 1*-Sweet (set) 2*-Extra Sweet (set) 3*-Normal Starch 4*-High Amylose Starch 5*-Waxy Starch 6*-High Protein 7*-High Lysine 8*-Super Sweet (se) 9*-High Oll 10*-Olher 9*-High Protein 7*-High Lysine 8*-Super Sweet (se) 9*-High Oll 10*-Olher 9*-High Protein 7*-High Lysine 8*-Super Sweet (se) 9*-High Oll 10*-Olher 9*-High Oll 10*-Olher 9*-High Protein 7*-High Lysine 8*-Super Sweet (se) 9*-High Oll 10*-Olher 9*-	dard Inbred Data	Standard Inbre		Page 3		
7. 3 mm Kernel Width 0.3 30 0.9.0 4.4 mm Kernel Thickness 0.3 30 0.4.9 2.8.9 % Round Kernels (Shape Grade) 6.5 5000g 31.7 1 Aleurone Color Pattern: 1=Hornozygous 2=Segregating (describe) 1 1.9 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 1.9 Aleurone Color (Munsell code 1.2 Y 8/10) 1.0 Y Hard Endosperm Color (Munsell code 2.5 Y 8/10) 1.0 Y Hard Endosperm Type: 1=Sweet (sul.) 2=Extra Sweet (set) 2=Monay Starch 4=High Amylose Starch 5=Weesy Starch 6=High Protein 7=High Lysine 0=Super Sweet (set) 9=High Oll 0.7 (Minsell code 1.2 Y 8/10) 1.0 Y Minsell Color (Set) 1.0 Y Minsell Color (Minsell code Lighter than 5 Y 9/1) 1.0 Y Minsell Color (Minsell c	Standard Deviation Sample Size	Mean	Sample Size	Standard Deviation	•	•
4.4 mm Kernel Thickness 0.3 30 0 4.9 28.9 % Round Kernels (Shape Grade) 6.5 500g 3 1.7 1 Aleurone Color Pattern: 1=Homozygous 2=Segregating (describe) 1 19 Aleurone Color (Munsell code Lighter than 6 Y 9/1) 1 19 Aleurone Color (Munsell code Lighter than 6 Y 9/1) 1 19 Aleurone Color (Munsell code 2.5 Y 8/10) 1 19 Aleurone Color (Munsell code 2.5 Y 8/10) 1 19 Aleurone Color (Munsell code 2.5 Y 8/10) 1 19 Aleurone Color (Munsell code 2.5 Y 8/10) 2 - Extra Sweet (sh2) 3 - Normal Starch 4=High Amylose Starch 5-VWay Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9-High Oil 10-Oilner 9-Hig	. 4 0.4 15	1 1.4	30	0.2	mm Kernel Length	1 1 .2
2 8.9 % Round Kernels (Shape Grade) 3 1.7 1 Aleurone Color Pattern: 1=Homozygous 2=Segregating (describe) 1 9 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 1 9 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10) 3 Endosperm Type: 1=Sweet (sul1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 0 7 (Munsell code 2.5 Y 8/10) 3 Endosperm Type: 1=Sweet (sul1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 0 3 3 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 0 3 3 5=Waxy Starch 10-Colher	0 0.5 15	0 9.0	30	0.3	mm Kernel Width	7 .3
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating (describe) 1 9 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 1 1 9 (Munsell code Lighter than 5 Y 9/1) 1 1 9 (Munsell code Lighter than 5 Y 9/1) 3 Endosperm Type: 1=Sweet (surt) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=N/axy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other 3 2 2 2 gm Weight per 100 Kernels (unsized sample) 4 8 1100 seeds 2 9 . 7 9 . COB: Standard Deviation Sample Size Mean 2 2 2 . 3 mm Cob Diameter at mid-point 0.6 30 2 2 2 . 1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 1 4 (Minsell Code Color (Munsell Code Lighter than 5 Y 9/1) 1 0 . DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Collototrichum graminicole) 7 Common Rust (Pucchia sorgh) — Common Rust (Pucchia polysora) 8 Southern Leaf Blight (Bloolars maydis) — Race 2 — Race 2 — Race 2 — Race 3 — Race 2 — Race 3 — Race 3 — Race 4 — Race 4 — Race 5 — Race 6 — Southern Leaf Blight (Bloolars maydis) — Com Lethal Right (Bloolars maydis) — Com Lethal Right (Bloolars maydis) — Com Lethal Necrosis (MCMV and MDMV) — Head Smut (Sphacolotheca religina) — Mazz Chlorotic Dwarf Virus (Richov) — Mazz Chlorotic Dwarf Virus (Richov) — Mazz Chlorotic Molet Virus (Richov) — Southern Stalk Rot (Fusarium moniliforme) — Gibberella Stalk Rot (Gusarium moniliforme) — Gibberella St	9 0.3 15	0 4.9	30	0.3	mm Kernel Thickness	4 .4
1 9 Aleurone Color (Munsell code Lighter than 5 Y 9/1) 0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10) 3 Endosperm Type: 1-5weet (sur1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Mays Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 0 3 3 2 2.2 gm Weight per 100 Kernels (unsized sample) 4.8 1100 seeds 2 9.7 9. COB: Standard Deviation Sample Size Mean 2 2 2.3 mm Cob Diameter at mid-point 0.6 30 2 2.1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 1 1 4 (Mill 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A Leaf Blights, Writs, and Local Infection Diseases 7 Anthracnose Leaf Blight (Colietotrichum graminicola) 7 Common Rust (Puccinia sorghi) — Common Rust (Puccinia sorghi) — Common Rust (Puccinia sorghi) — Common Rust (Valendelia zee) 6 Goos S Writt (Clavibacter michiganense spp. nebraskense) 7 Goss Writt (Clavibacter michiganense spp. nebraskense) 7 Helling Start Blight (Epiciosiris maydis) — Race 2 8 Helling Start Mill (Excenoliulum turccum) — Race 2 8 Helling Start Mill (Excenoliulum turccum) — Race 2 8 Helling Start Mill (Excenoliulum turccum) — Race 2 8 Helling Collectoric Mill (Excenoliulum turccum) — Race 2 8 Helling Collectoric Mill (Excenoliulum turccum) — Race 2 8 Helling Collectoric Mill (Excenoliulum turccum) — Race 2 8 Helling Collectoric Diseases 6 Collectoric Diseases 8 Collectoric Diseases 8 Collectoric Diseases 8 Collectoric Diseases 9 Collectoric Diseas	7 3.6 500g	3 1. 7	500g	6.5	% Round Kernels (Shape Grade)	2 8. 9
0.7 Hard Endosperm Color (Munsell code 2.5 Y 8/10) 3 Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other. 3 2 .2 gm Weight per 100 Kernels (unsized sample) 4.8 1100 seeds 2 9.7 9. COB: Standard Devisition Sample Size Mean 2 2 2.3 mm Cob Diameter at mid-point 0.6 30 2 2.1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 14 (Minsell code Lighter than 5 Y 9/1) 14 (Minsell Code Lighter than 5 Y 9/1) 14 (Minsell Code Lighter than 5 Y 9/1) 15 (Minsell Code Lighter than 5 Y 9/1) 17 (Minsell Code Lighter than 5 Y 9/1) 17 (Minsell Code Lighter than 5 Y 9/1) 18 (Minsell Code Lighter than 5 Y 9/1) 18 (Minsell Code Lighter than 5 Y 9/1) 19 (Minsell Code Lighter than 5 Y 8/1) 19		1		ating (describe)	Aleurone Color Pattern: 1=Homozygous 2=Segrega	1
3 Endosparm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other 10=Other 10=Other 3 2 2 2 gm Weight per 100 Kernels (unsized sample) 4.8 1100 seeds 2 9.7 9. COB: Standard Devisition Sample Size Mean 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 14 (M 19 Cob Color (Munsell code Lighter than 5 Y 9/1) 14 (M 19 Cob Color (Munsell code Lighter than 5 Y 9/1) 14 (M 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Collectorichum graminicola) 7 Common Smut (Vacidate) area 9 Common Smut (Vac	(Munsell code Lighter Than 2.5 Y 9/2)	1 9 (Munsell c		ı	Aleurone Color (Munsell code Lighter than 5 Y 9/1)	19
5-eVaxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10-Other. 3 2 .2 gm Weight per 100 Kernels (unsized sample) 4.8 1100 seeds 2 9.7 9. COB: Standard Deviation Sample Size Mean 2 2 .3 mm Cob Diameter at mid-point 0.6 30 2 2.1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 1 1 4 (M 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Collectrichum graminicole) 7 Common Rust (Puccinia sorghi) — Common Rust (Visilago mayolis) — Common Common Common Light (Collectrichum graminicole) 7 Gray Leaf Sport (Cercospora zeae-maydis) 2 Gray Leaf Sport (Cercospora zeae-maydis) 3 Southern Rust (Puccinia Bolgoria) — Race 2 8 Rotthern Rust (Puccinia Bolgoria) — Race 2 8 Rece O 9 Southern Rust (Puccinia Bolgoria) — Race 0 9 Southern Rust (Puccinia Bolgoria) — Race 0 9 Southern Rust (Puccinia Bolgoria) — Southern Rust (Puccinia Independent Rust (Puccinia) — Race 0 9 Southern Rust (Puccinia) — Race 0 9 So	(Munsell code 2.5 Y 8/10)	0 7 (Munsell c			Hard Endosperm Color (Munsell code 2.5 Y 8/10)	07
9. COB: Standard Deviation Sample Size Mean 22.3 mm Cob Diameter at mid-point 0.6 30 2 2.1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Collectrichum graminicola) 7 Common Rust (Puccinia sorphi) Common Rust (Puccinia sorphi) Common Rust (Puccinia sorphi) Common Rust (Puccinia sorphi) Common Smut (Ustilago maydis) Eyespot (Kabatilella seae) 7 Girsy Leaf Spot (Cerosopora zeae-maydis) Resea Spot (Cerosopora zeae-maydis) Resea Spot (Cerosopora zeae-maydis) Race 2 Race 2 Race 2 Race 3 Southern Leaf Blight (Esvarinium turcicum) Race 2 Race 2 Race 0 Southern Leaf Blight (Esvarinium turcicum) Race 0 Southern Rust (Puccinia polysora) Stewarts Wilt (Erwinia stewartii) Research Wilt (Erwinia stewartii) Systemic Diseases Corn Lethal Necrosis (MCMV and MDMV) Head Smut (Sphacelotheca reiliana) Maize Chiorotic Dowart Virus (MCDV) Maize Chiorotic Mottle Virus (MCDV) M		03		8=Super Sweet (se)	5=Waxy Starch 6=High Protein 7=High Lysine	
2 2 .3 mm Cob Diameter at mid-point 0.6 30 2 2 .1 1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 1 1 4 (M 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Colletotrichum graminicola) 7 Common Rust (Puccinia sorghi) 7 Common Rust (Puccinia sorghi) 8 Common Rust (Puccinia sorghi) 9 Common Rust (Puccinia polysora) 9 Common R	8.7 1200 seeds	2 9. 7	1100 seeds	4.8	gm Weight per 100 Kernels (unsized sample)	3 2 .2
1 9 Cob Color (Munsell code Lighter than 5 Y 9/1) 1 4 (M 10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic). A Leaf Blights, Wilts, and Local Infection Diseases 7 Anthracnose Leaf Blight (Colletotrichum graminicola) 7 Common Rust (Puccinia sorgh) Common Smut (Ustiliago maydis) Eyespot (Kabatielia zeae) 9 Goss's Wilt (Clavibacter michiganense spp. nebraskense) 9 Gray Leaf Spot (Cercospora zeae-maydis) 1 Helminthosporium Leaf Spot (Bipolaris zeicola) 1 Helminthosporium Leaf Bight (Exserohilum furcicum) 1 Race 2 1 Helminthosporium Leaf Bight (Exserohilum furcicum) 1 Race 2 2 Southern Leaf Bight (Exserohilum furcicum) 2 Southern Leaf Bight (Exserohilum furcicum) 2 Southern Rust (Puccinia polysora) 3 Southern Wilt (Erwinia stewartii) 3 Other (Specify) 8 Systemic Diseases Corn Lethal Necrosis (MCMV and MDMV) 1 Head Smut (Sphacelotheca reiliana) 2 Maize Chlorotic Divarf Virus (MCDV) 3 Maize Chlorotic Divarf Virus (MCDV) 4 Maize Chlorotic Divarf Virus (MCDV) 5 Maize Chlorotic Mottle Virus (MCDV) 5 Maize Chlorotic Mottle Virus (MCDV) 6 Maize Chlorotic Mottle Virus (MCDV) 7 Maize Chlorotic Mottle Virus (MCDV) 8 Maize Chlorotic Mottle Virus (MCDV) 9 Maize Chlorotic Mott	Standard Deviation Sample Size	Mean	Sample Size	Standard Deviation		9. COB:
10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic): A. Leaf Blights, Wilts, and Local Infection Diseases 7. Anthracnose Leaf Blight (Colletotrichum graminicola) 7. Common Rust (Puccinia sorghi) Common Smut (Ustilago maydis) Eyespot (Kabatielia zeae) 7. Eyespot (Kabatielia zeae) 7. Gray Leaf Spot (Cercospora zeae-maydis) 7. Helminthosporium Leaf Spot (Bipolaris zeicola)	1 0.8 15	2 2.1	30	0.6	mm Cob Diameter at mid-point	22.3
Race or Strain Options blank if polygenic): A. Leaf Blights, Wilts, and Local Infection Diseases 7. Anthracnose Leaf Blight (Colletotrichum graminicola) 7. Common Rust (Puccinia sorgin) Cormon Smut (Ustilago maydis) 8. Eyespot (Kabatielia zeae) 9. Goss's Wilt (Clavibacter michiganense spp. nebraskense) 9. Gray Leaf Spot (Cercospora zeae-maydis) 9. Helminthosporium Leaf Spot (Bjolaris zeicola)	(Munsell code 5 R 3/8)	1 4 (Munsell o			Cob Color (Munsell code Lighter than 5 Y 9/1)	1 9
Corn Lethal Necrosis (MCMV and MDMV) Head Smut (Sphacelotheca reiliana) Maize Chlorotic Dwarf Virus (MCDV) Maize Dwarf Mosaic Virus (MDMV) Maize Dwarf Mosaic Virus (MDMV) Sorghum Downy Mildew of Corn (Peronosclerospora sorghi) Other (Specify) C. Stalk Rots Anthracnose Stalk Rot (Colletotrichum graminicola) Diplodia Stalk Rot (Stenocarpella maydis) Fusarium Stalk Rot (Fusarium moniliforme) Gibberella Stalk Rot (Gibberella zeae) Other (Specify) D. Ear and Kernel Rots Aspergillus Ear and Kernel Rot (Aspergillus flavus) Diplodia Ear Rot (Stenocarpella maydis) Fusarium Ear and Kernel Rot (Fusarium moniliforme) Gibberella Ear Rot (Stenocarpella maydis) Fusarium Ear and Kernel Rot (Fusarium moniliforme) Gibberella Ear Rot (Gibberella zeae) Gibberella Ear Rot (Gibberella zeae) Gibberella Ear Rot (Gibberella zeae)	Goss's Wilt Gray Leaf Spot Helminthosporium Leaf Spot	Common R Common S Eyespot G Goss's Will Gray Leaf S Helminthos Northern L Southern L Southern S Stewart's V		Race 2 Race O	st (Puccinia sorghi) nut (Ustilago maydis) batiella zeae) Clavibacter michiganense spp. nebraskense) oot (Cercospora zeae-maydis) orium Leaf Spot (Bipolaris zeicola)	7 Common Rus Common Sm 8 Eyspot (Kab 7 Goss's Wilt (6 7 Gray Leaf Sp 7 Helminthospo 7 Northern Lea 8 Southern Rus 7 Stewart's Wilt
	Maize Chlorotic Dwarf Virus Maize Chloritic Mottle Virus Maize Dwarf Mosaic Virus Morghum Downy Mildew of Corn Other (Specify) Anthracnose Stalk Rot Diplodia Stalk Rot Fusarium Stalk Rot Fusarium Stalk Rot Dibberelia Stalk Rot Dither (Specify) Aspergillus Ear & Kernel Rot	Head Smut Maize Chlo Maize Chlo Maize Chlo Maize Chlo Sorghum D Other (Sper Anthracnos Diplodia St Fusarium S Gibberella S Other (Sper Aspergillus Diplodia Ea Fusarium E Gibberella I			Necrosis (MCMV and MDMV) Sphacelotheca reiliana) tic Dwarf Virus (MCDV) tic Mottle Virus (MCMV) Mosaic Virus (MDMV)	Corn Lethal N Head Smut (S Maize Chlorol Maize Dwarf I Sorghum Dow Other (Specify C. Stalk Rots Anthracnose S Diplodia Stalk Fusarium Stal Gibberella Sta Other (Specify D. Ear and Kernel Aspergillus Ear Diplodia Ear F Fusarium Ear Gibberella Ear Gibberella Ear
Application Variety Data Standard	lard Inbred Data					
Note: Use chart on first page to choose color codes for color traits.	The second secon	Sidinger Hillion				

Application Variety Data Page 4	Standard Inbred Data				
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested): Standard Deviation Sample Size	Standard Deviation Sample Size				
Banks Grass Mite (Oligonychus pratensis)	Banks Grass Mite				
Corn Earworm (Helicoverpa zea) Leaf-Feeding Silk Feeding : mg larval wt Ear Damage	Corn Earworm Leaf Feeding Ear Damage				
Corn Leaf Aphid (Rhopalosiphum maidis) Corn Sap Beetle (Carpophilus dimidiatus)	Corn Leaf Aphid Corn Sap Beetle				
European Corn Borer (Ostrinia nubilalis) 1st Generation (Typically Whorl Leaf Feeding) 2nd Generation (Typically Leaf Sheath-Collar Feeding) Stalk Tunneling : cm tunneled/plant	European Corn Borer1st Generation2nd Generation				
Fall Armyworm (Spodoptera frugiperda) Leaf-Feeding Silk-Feeding:mg larval wt	Fall Armyworm Leaf Feeding				
Maize Weevil (Sitophilus zeamaize) Northern Rootworm (Diabrotica barberi) Southern Rootworm (Diabrotica undecimpunctata)	Maize Weevil Northern Rootworm Southern Rootworm				
Southwestern Corn Borer (<i>Diatraea grandiosella</i>) Leaf Feeding Stalk Tunneling : cm tunneled/plant	Southwestern Corn Borer Leaf Feeding				
Two-spotted Spider Mite (Tetranychus urticae) Western Rootworm (Diabrotica virgifera virgifera) Other (Specify)	Two-spotted Spider Mite Western Rootworm Other (Specify)				
12. AGRONOMIC TRAITS:	100 100 100 100 100 100 100 100 100 100				
6 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)	2 Stay Green				
0 0 .0 % Dropped Ears (at 65 days after anthesis)	0 0.0 % Dropped ears				
0 0 .0 % Pre-anthesis Brittle Snapping	0 0 .0 % Pre-anthesis Brittle Snapping				
0 0. 0 % Pre-anthesis Root Lodging	0 0 .0 % Pre-anthesis Root Lodging				
0 0. 0 % Post-anthesis Root Lodging (at 65 days after anthesis)	0 0.0 % Post-anthesis Root Lodging				
Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	Yield				
13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)					
1 Isozymes 0 RFLP's 0 RAPD'sOther (Specify)					
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Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University. Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN. Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT. Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York. McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.					
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COMMENTS (e.g. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):					
Heat Unit Calculation: GDU = Daily Max Temp (<=86°F) + Daily Min Temp (>=50°F) - 50°F					
Supplemental data obtained from 2005 seed inventory and production parent test.					

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3
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(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	OR EXPERIMENTAL NUMBER	3. VARILETT NAME
Monsanto Technology Ł.L.C. LLC		1512243
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (include area code)	6. FAX (Include area code)
	(815) 758-9281	(815) 758-3117
800 N. Lindbergh Blvd.		(0.0,100 0.1.)
Creve Couer, MO 63167 U.S.A.	7. PVPO NUMBER	2006 00 145
8. Does the applicant own all rights to the variety? Mark an "X" in the	a appropriate block If no please evals	in. Y YES NO
or pose the approach and an agric to the tallety. Maintain X and a	о арргориясь віські в по, рісько ехрів	X YES NO
9. Is the applicant (individual or company) a U.S. national or a U.S. b	ased company? If no, give name of co	ountry. X YES NO
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<u> </u>		
a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. Nationa NO If no, give name of countr	
	RO IS NO, give name of county	y
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11. Additional explanation on ownership (Trace ownership from origin	nal breeder to current owner. Use the re	everse for extra space if needed):
Corn Variety I512243 was originated and development to any invention, discovery or development to such invention, discovery or development to such invention, discovery or development to such invention, discovery or development.	Monsanto Technology 14.6 and ment are assigned to Monsanto	i the breeder, all Technology L.L.C.
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2. If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a cogenus and species.		
3. If the applicant is an owner who is not the original owner, both the o	original owner and the applicant must m	eet one of the above criteria.
The original breeder/owner may be the individual or company who direct for definitions.	ected the final breeding. See Section 4	1(a)(2) of the Plant Variety Protection
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, a control number. The valid OMB control number for this information collection is 0581-0055, including the time for reviewing the instructions, searching existing data sources, gathering ar	The time required to complete this information collect	tion is estimated to average 0.1 hour per response,
The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and ac marital or family status, political beliefs, parental status, or protected genetic information. (No communication of program information (Braille, large print, audiotape, etc.) should contact US	ctivities on the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of race, color, national origin, gent of the basis of the bas	nder, religion, age, disability, sexual orientation, is with disabilities who require alternative means for

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY **PLANT VARIETY PROTECTION OFFICE** BELTSVILLE, MD 20705

EXHIBIT F

NAME OF OWNER (S)	ADDDESO (A)	·
	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
Monsanto Technology LLC	8350 Minnegan Road	
	Waterman, IL 60556 U.S.A.	VARIETY NAME
	U.S.A.	I512243
NAME OF OWNER REPRESENTATIVE (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	The SPECIAL VALUE AND A SECURITION OF THE SECURITIES OF THE SECURITION OF THE SECURI
Timothy R. Kain	8350 Minnegan Road	
	Waterman, IL 60556	PVPO NUMBER
	U.S.A.	2006 00145

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

3/5/2008